

### Abstract

A method for detecting a fault of an oil temperature sensor of an automatic transmission by using a determining means for detecting the fault of the oil temperature sensor. The method includes any one or more of the steps of 1) determining the fault of the oil temperature sensor by comparing minimum and maximum output values of the oil temperature sensor in every driving mode, 2) determining the fault of the oil temperature sensor by detecting abnormal excessive increase and decrease of the oil temperature for a specific duration, 3) determining the fault the oil temperature sensor in the stuck state in the driving mode when transmission oil temperature increases, and 4) determining the fault of the oil temperature sensor by detecting the oil temperature exceeding a predetermined temperature based on the time when the engine is left at a stopped state.